



Docket No. 12969

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bitler

Group Art Unit: 1714

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Examiner: Szekely, P.

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Title: Polymeric Thickeners for Oil-Containing Compositions

Clean Copy of Claims as amended by the Reply mailed August 21, 2000

1. A thickened oil composition comprising
 - (1) an oil, and
 - (2) dispersed in the oil, a polymer which
 - (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil, and
 - (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups;

the composition being at a temperature below T_p .

- 2. A composition according to Claim 1 which is substantially free of water.
- 3. A composition according to Claim 1 which is a water-in-oil emulsion.

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Claim 4 canceled

5. A composition according to Claim 1, wherein the SCC polymer is present in amount at least 3 % by weight and contains at least 80% by weight of repeating units containing a side chain comprising a linear polymethylene radical containing 10 to 50 carbon atoms.
6. A composition according to Claim 1, wherein the SCC polymer is present in amount at least 3 % by weight and contains at least 80% by weight of repeating units containing a side chain comprising a linear perfluorinated polymethylene radical containing 6 to 50 carbon atoms.
7. A composition according to Claim 1, wherein the SCC polymer is a homopolymer.
8. A composition according to Claim 1, wherein the SCC polymer consists essentially of units derived from least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms.
9. A composition according to Claim 8 wherein the SCC polymer is present in amount at least 3 % by weight and the n-alkyl group contains 16 to 50 carbon atoms.
10. A composition according to Claim 1, wherein the polymer is a copolymer which consists essentially of units derived from
 - (a) at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms, and
 - (b) at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 10 to 50 carbon atoms.
11. A composition according to Claim 10 wherein the SCC polymer is present in amount at least 3 % by weight and the n-alkyl group contains 16 to 50 carbon atoms.

12. A composition according to Claim 1, wherein T_p is above 40 °C.
13. A composition according to Claim 1, wherein T_p is 40-50 °C.
14. A composition according to Claim 1, wherein $T_p - T_o$ is less than 10 °C.
15. A thickened oil composition comprising
 - (1) an oil, and
 - (3) dispersed in the oil, at least 3% by weight of a side chain crystalline (SCC) polymer which
 - (a) has a crystalline melting point, T_p , of 20 to 80 °C, and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than 10 °C;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises
 - (i) dissolving the polymer in the oil at a temperature above T_p , and
 - (ii) cooling the solution to crystallize the polymer in the oil,
 - (d) contains at least 80% by weight of repeating units containing a side chain comprising a linear polymethylene radical containing 10 to 50 carbon atoms or a linear perfluorinated polymethylene radical containing 6 to 50 carbon atoms, and
 - (e) is substantially free of functional groups;the composition being at a temperature below T_p .
16. A composition according to Claim 15 which is substantially free of water.
17. A composition according to Claim 15 which is a water-in-oil emulsion.
18. A composition according to Claim 15, wherein T_p is 40-50 °C.

19. A composition according to Claim 15, wherein the SCC polymer consists essentially of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms.
20. A composition according to Claim 15, wherein the SCC polymer is a homopolymer.